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HILL consulting |

Smart Energy: A World of Risk and Opportunity

Madgwick's Energy Forum
November 2010

Contents

Energy price increases will drive change

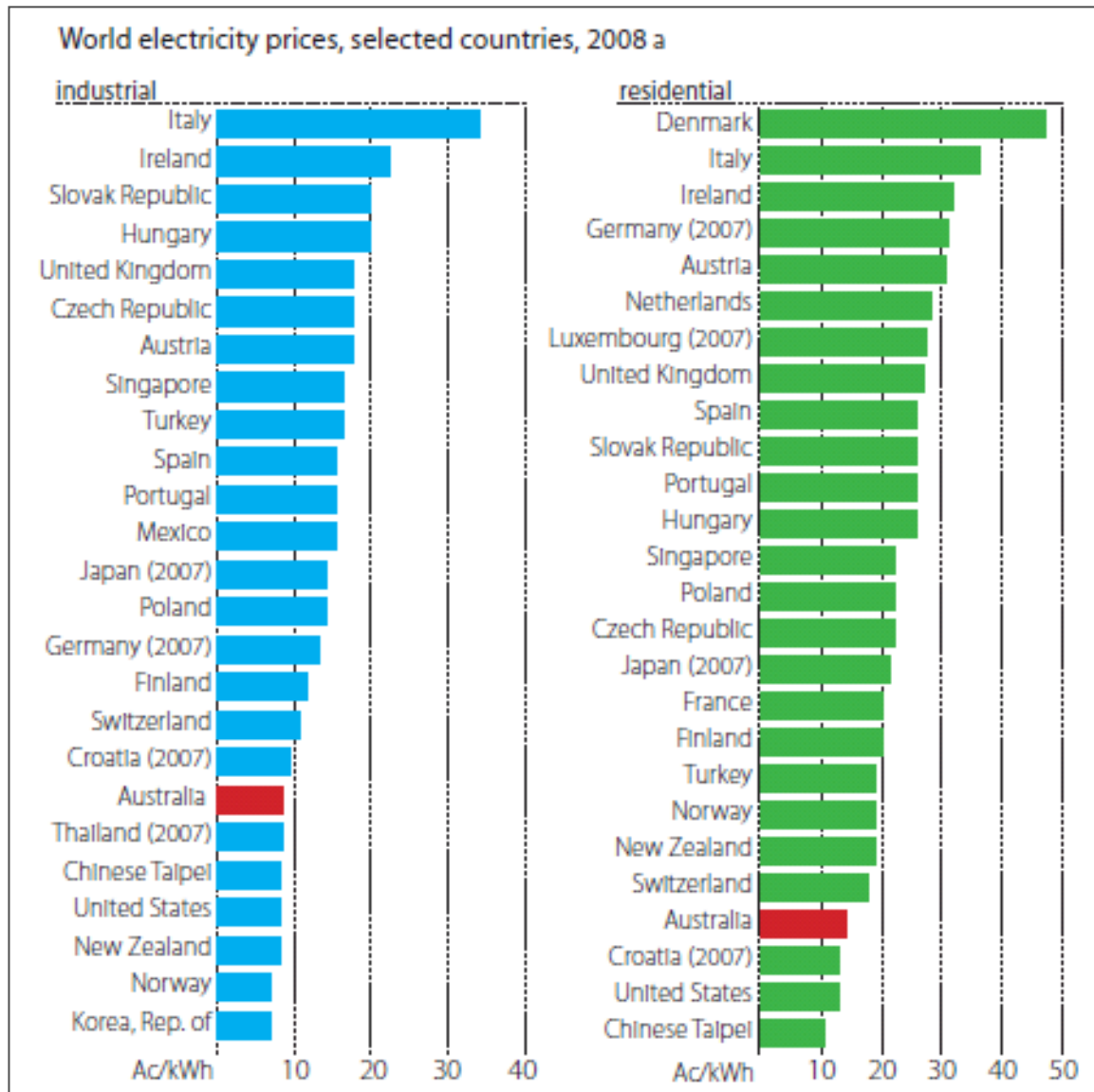
New technology will enable the “Smart Energy” landscape

Energy will transform from a product to a service

The industry will change, and significantly

Progress to date – United Kingdom vs Victoria

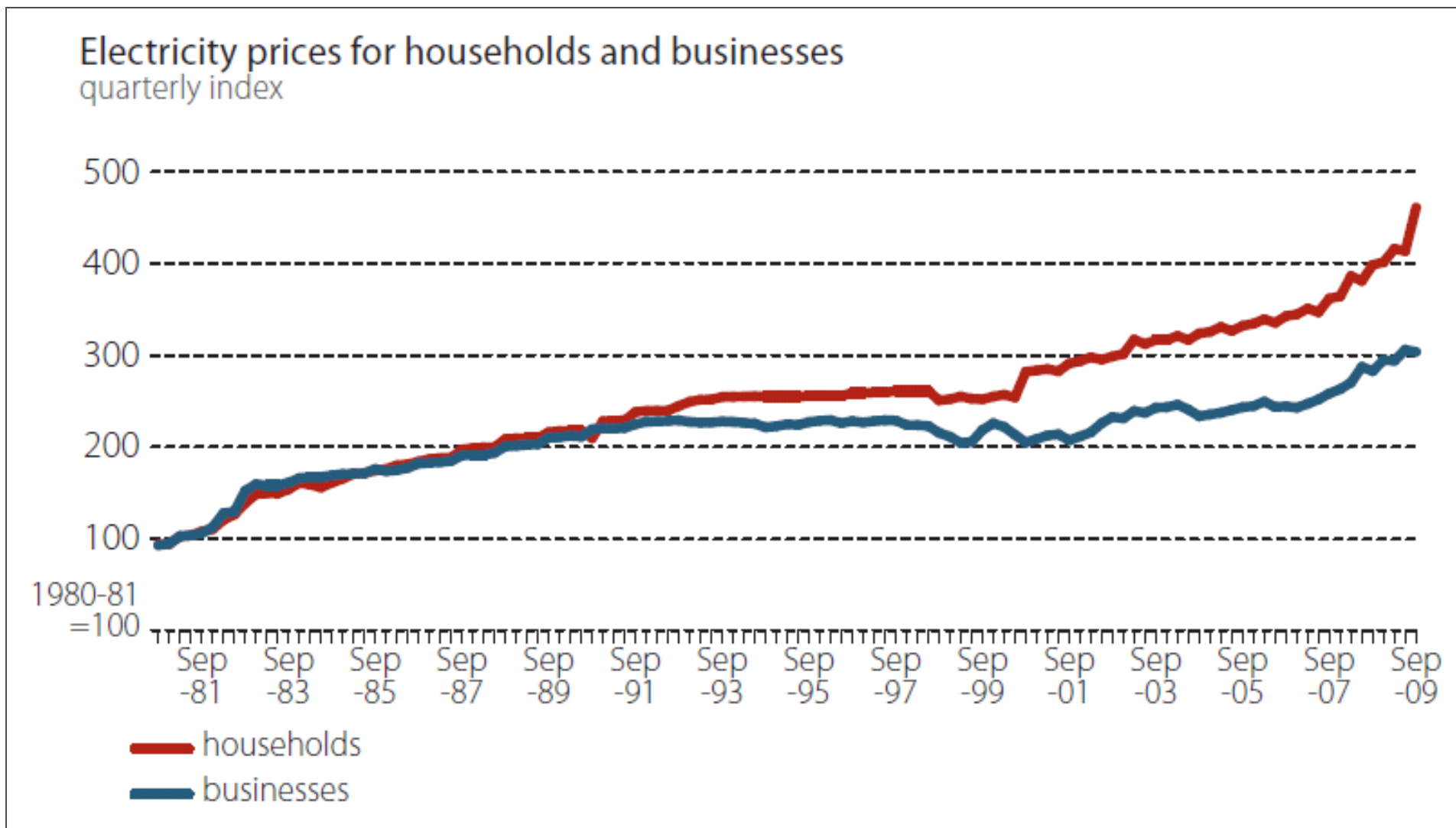
Historically, Australian electricity prices have been low...



Source:

"Energy in Australia 2010:", Abare

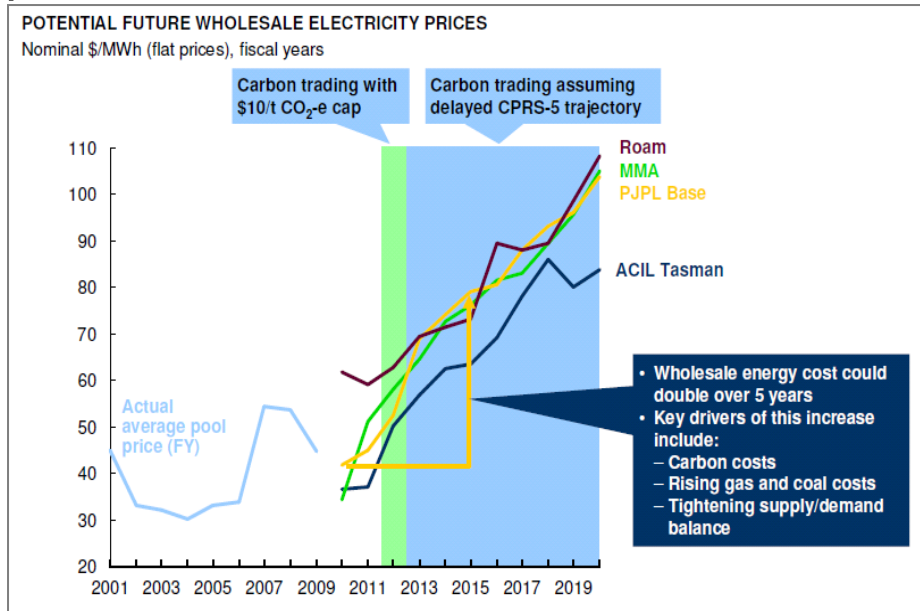
... despite significant increases in recent years....



Source: ABS, cat. no. 6427.0 Producer Price Indexes Australia, cat. no. 6401.0 Consumer Price Index Australia.

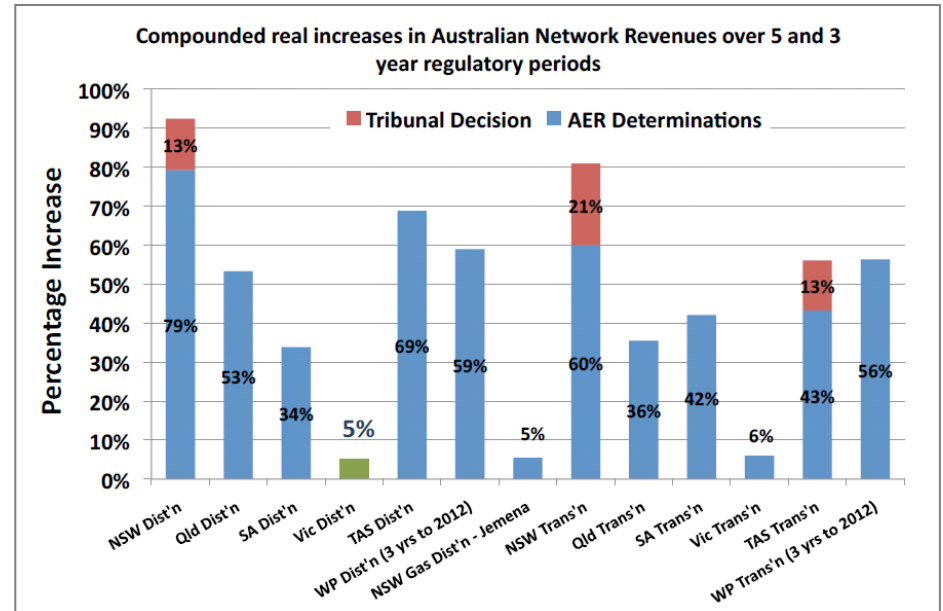
... but prices are about to aggressively escalate.

Retail energy prices are getting higher, with little off-setting downward pressure...



Source: "Not just a carbon hit on electricity prices", PJP

... driven by a combination of higher component costs



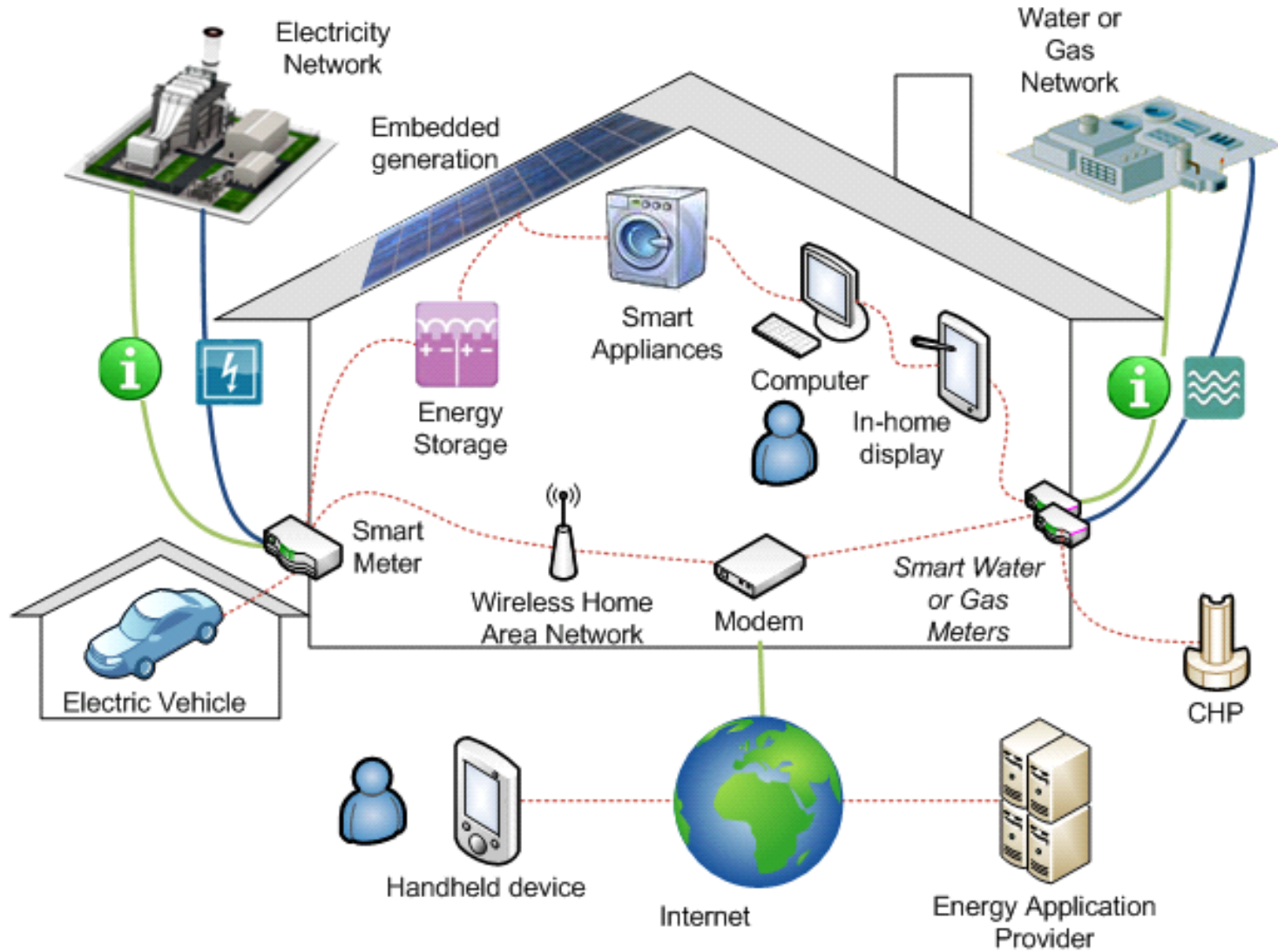
Source: "Victorian AER 2010 draft decision on DNSP revenues and prices", EUAA

Consumers will become increasingly conscious of their energy choices –
Technology provides a mechanism to make better choices

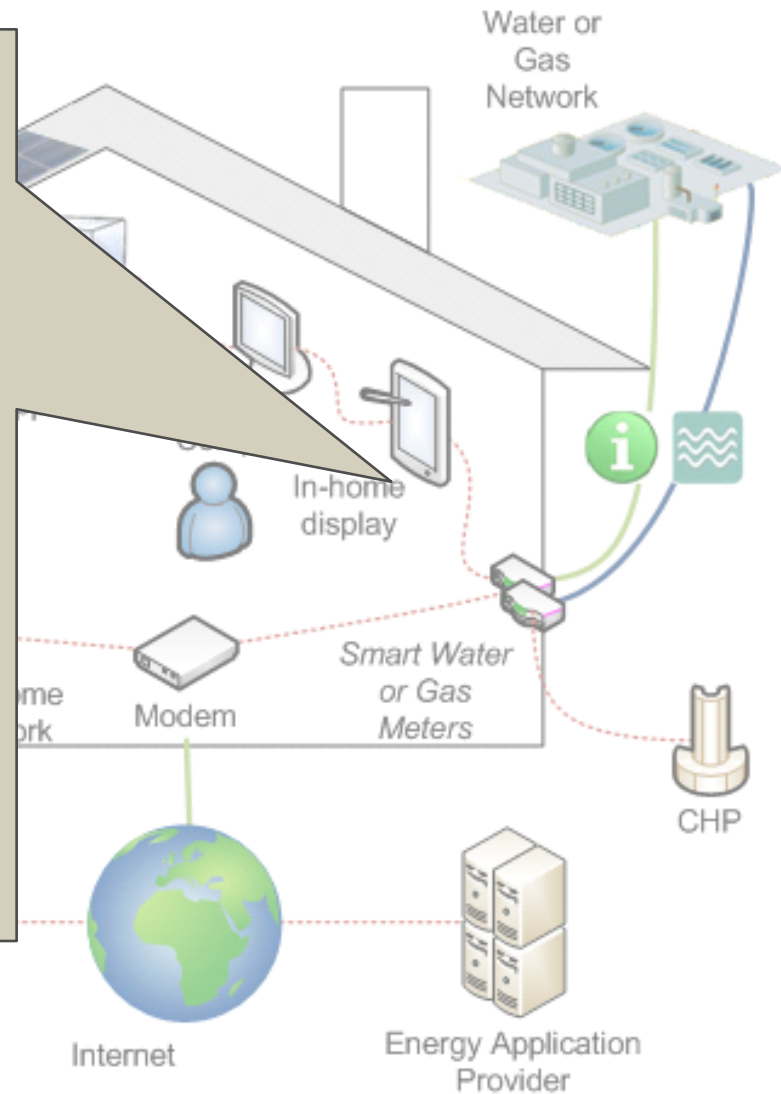
A decorative graphic in the top-left corner consisting of several overlapping, thick, light-brown lines. One line is vertical, while others are diagonal, creating a layered, geometric effect.

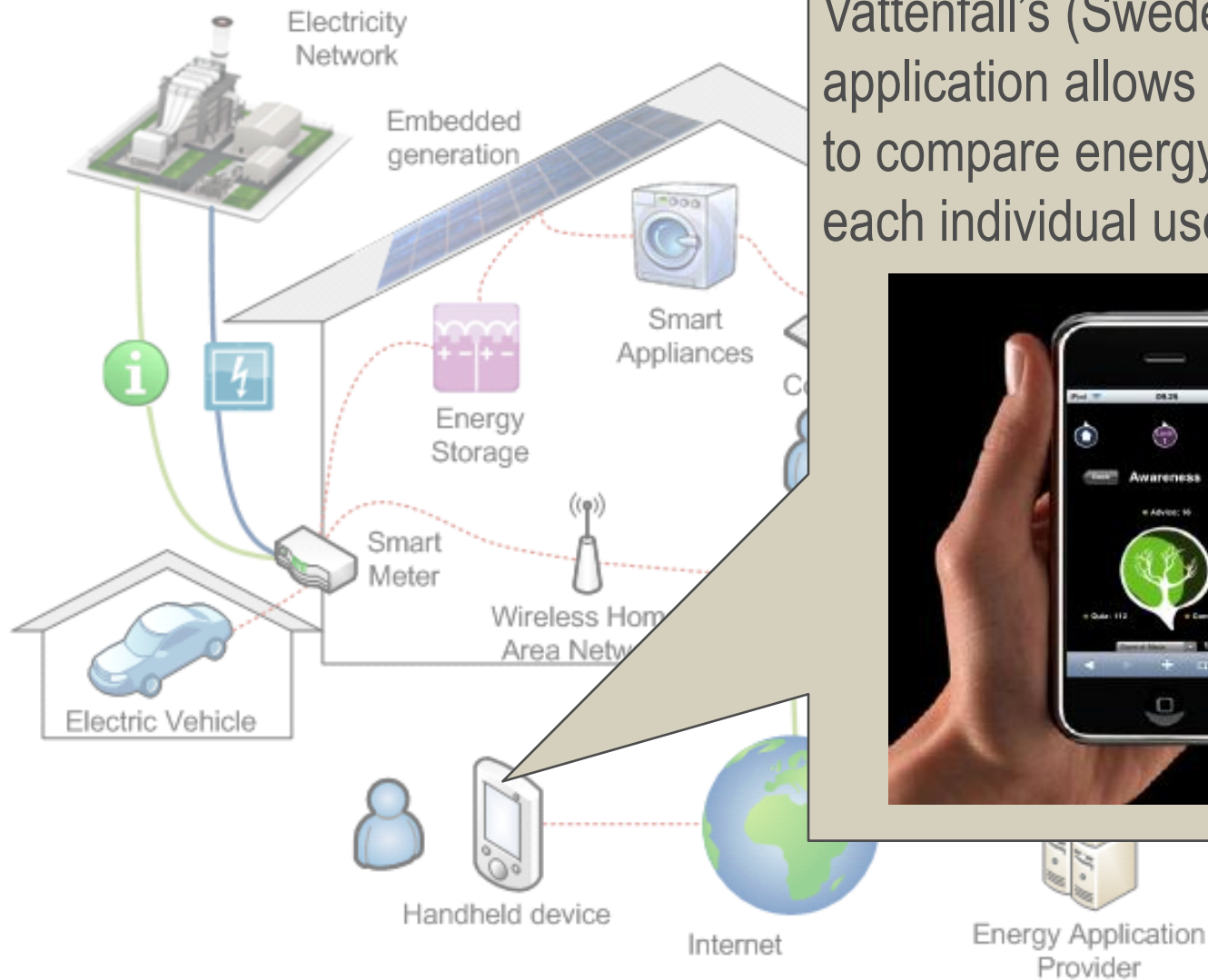
**New technology will enable the
“Smart Energy” landscape**

Some homes will become a technology hub !



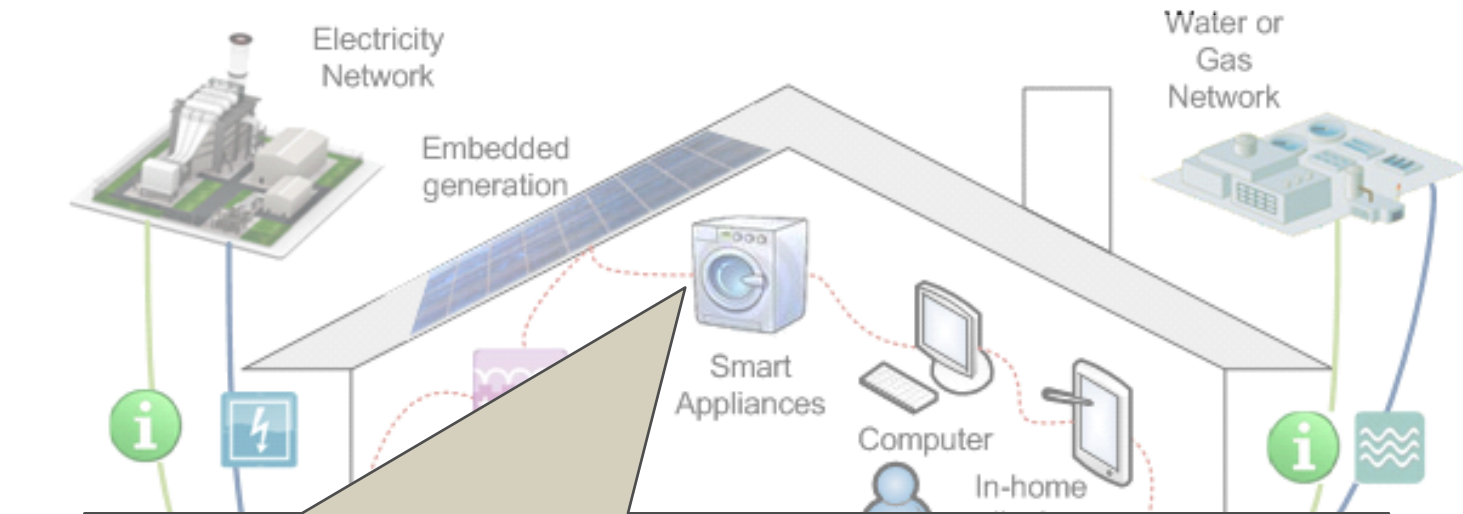
Matsushita Electric (Japan) has had great success with a line of in-home displays featuring dancing cartoon penguins...





Vattenfall's (Sweden) BeAware application allows the household to compare energy usage for each individual user...



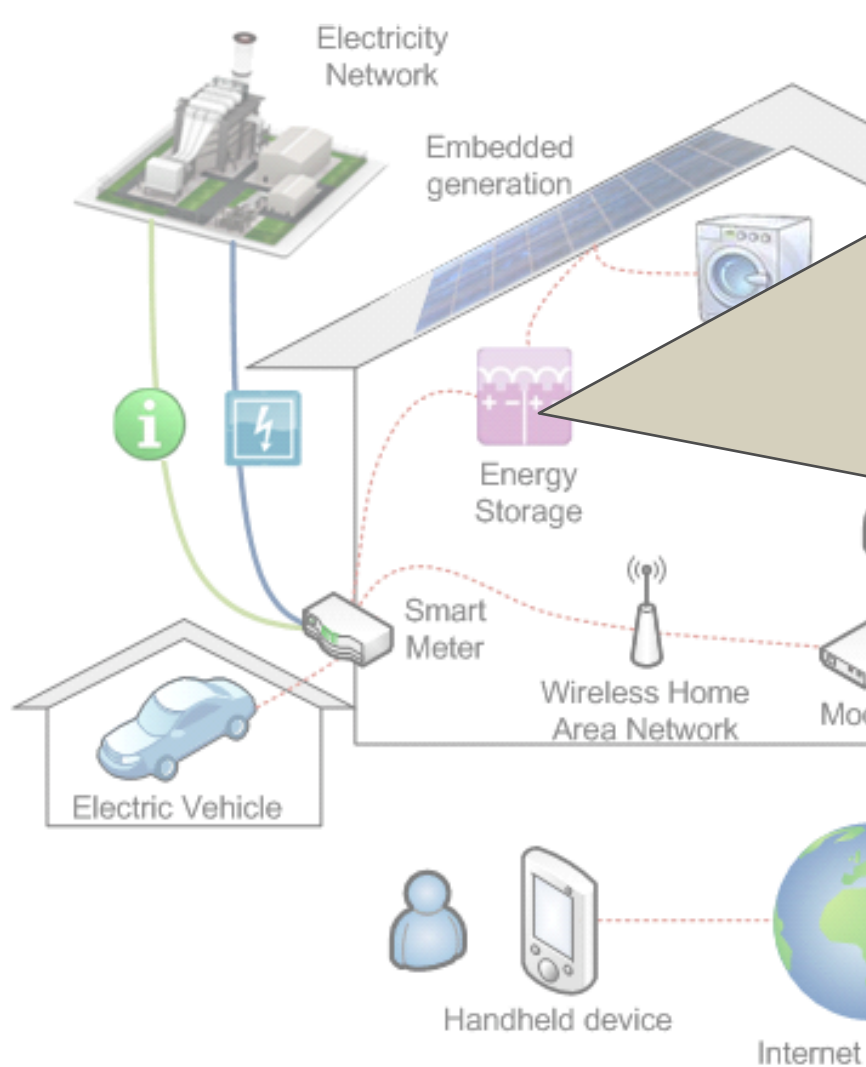


ThinkEco (USA) markets plugs which monitor energy consumption for individual appliances...

A happy home

A happy home is where your appliances run more efficiently and you can automatically save on your electricity bill.

[More info >](#)



Water or
Gas

Flywheel Energy Storage (FES) systems have a range of applications, including:

- Household use
- Transportation (rail, bus)
- Amusement park rides



Provider

If you think I’m dreaming



Porsche 911 GT3R Hybrid

- Electro-mechanical flywheel
- 161 extra horsepower
- Improved braking
- Improved fuel economy



**Energy will transform from a
product to a service**

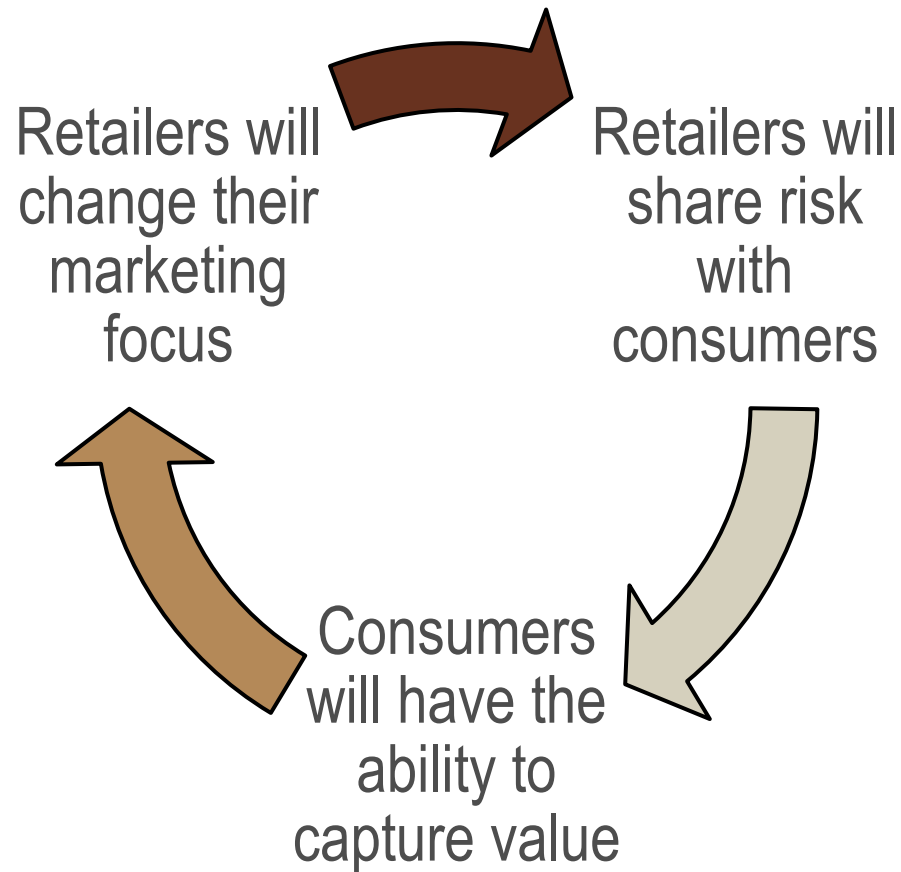
Energy is a low engagement, homogenous **product**

- Prices are low
- Prices do not influence demand
- Energy choices are not conscious
- Few alternatives
- Unconstrained demand
- Exceptionally volatile demand

Energy **services** differentiate between suppliers and segment consumers

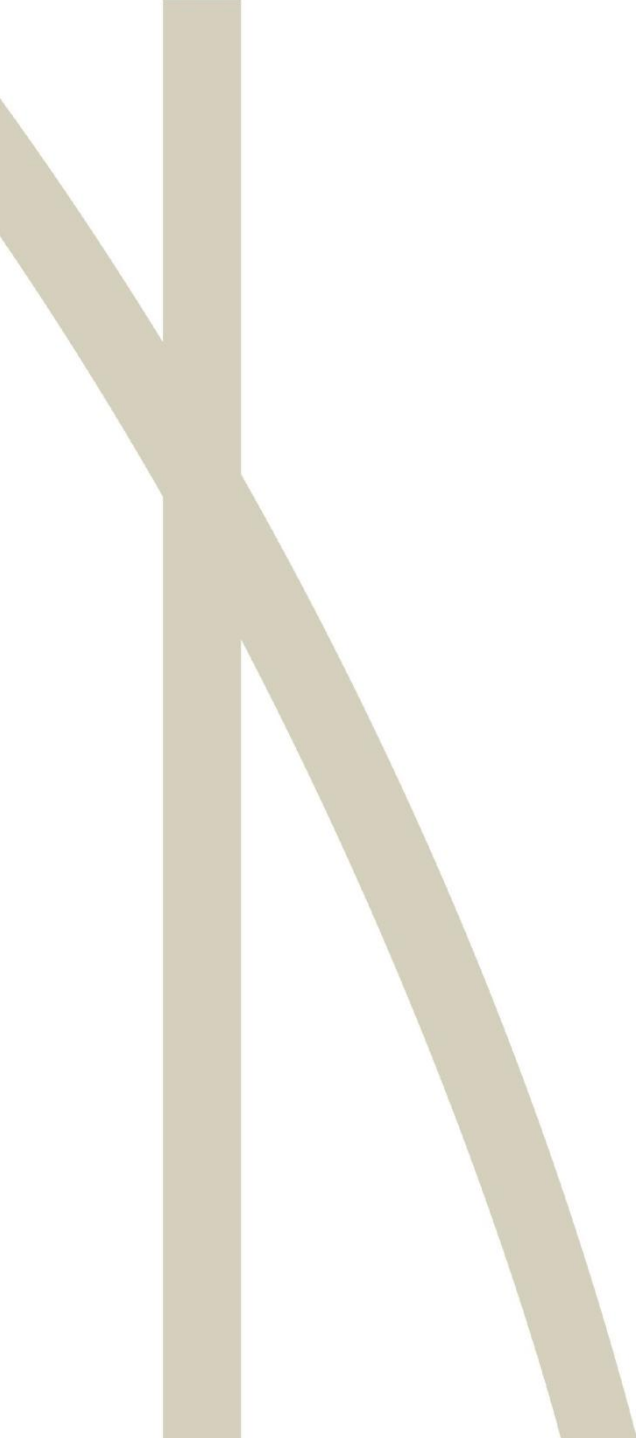
- High prices influence demand
- Consumers seek information and energy management applications
- Alternative sources of energy are available & cost effective
- Usage is optimised
- A range of new services are offered

The Retailer-Consumer relationship will be transformed



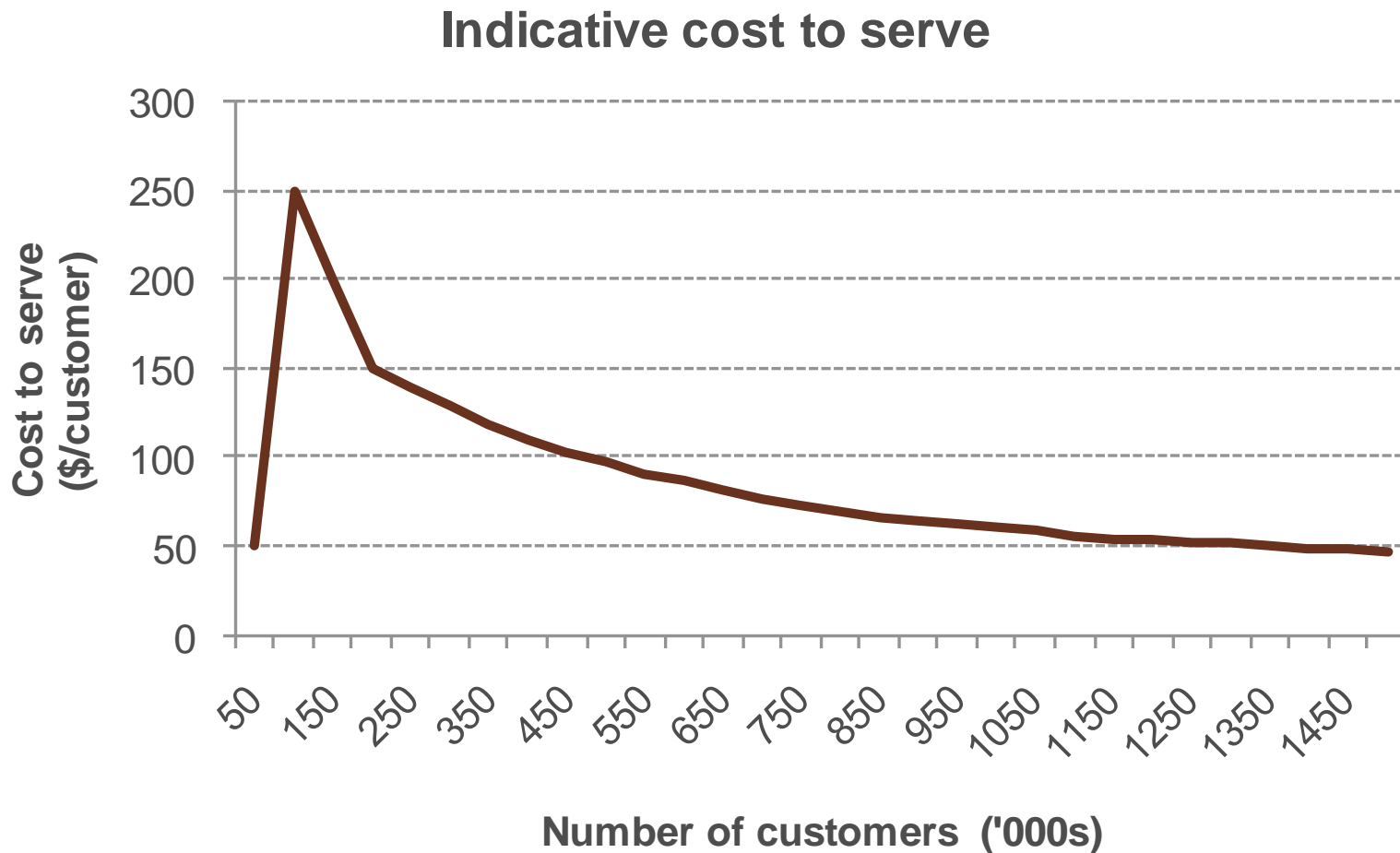
- New products will be marketed:
- Direct appliance / load control
 - Home energy optimisation
 - Innovative tariffs

- Customers will be increasingly segmented, on the basis of:
- Price responsiveness
 - Engagement level
 - Varying preferences
 - Churn rates



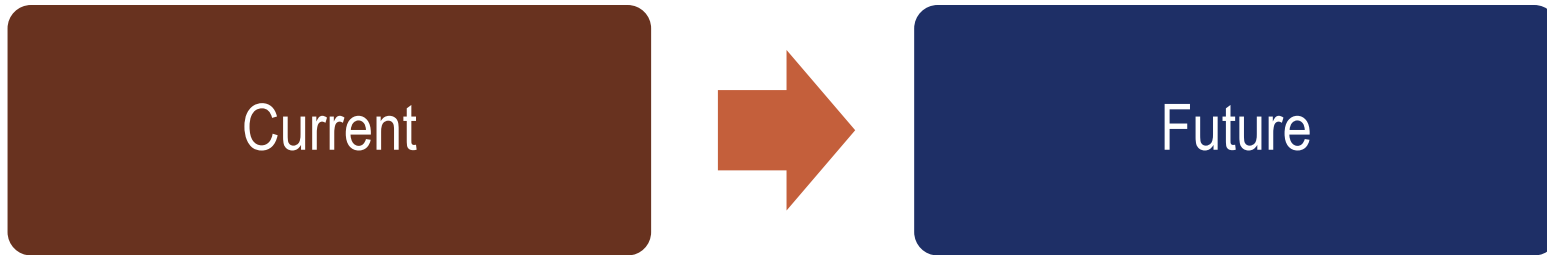
**The industry will change, and
significantly**

Tier 2 Retailers will be given the catalyst to change their business model



Source: MHC analysis

Tier 1 and Tier 2 retailers: who are they?



In Victoria:

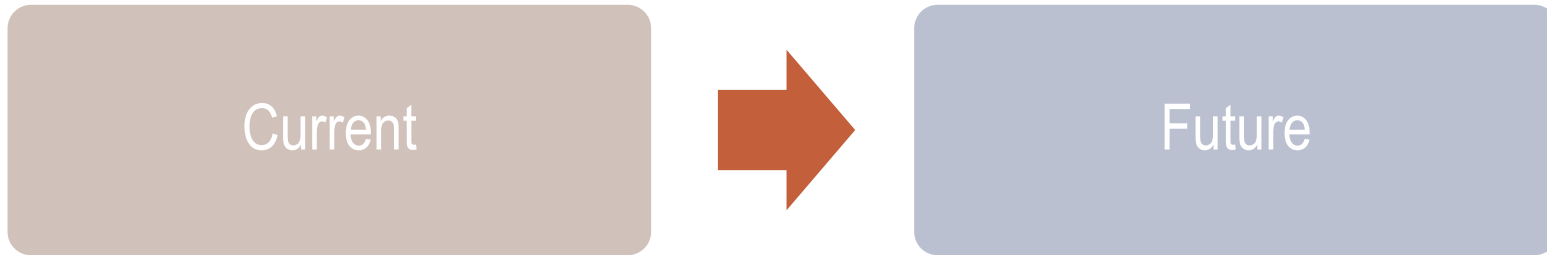
- Tier 1 means TRU, Origin Energy and AGL
- Tier 2 means the rest: Lumo, Simply Energy, Red Energy, Momentum, Neighbourhood Energy, etc

The business models of today...



- Industry primarily offers cost based propositions
- Tier 1s should be able to out-compete the (more nimble) Tier 2s by virtue of:
 - Lower cost-to-serve (scale)
 - Physical generation hedge (i.e. vertical integration)

...will be open to change...



Tier 2s must choose a path forward:

- a) Continue to deliver little / no ROE
- b) Position for acquisition by Tier 1s
- c) Merge with other Tier 2s; add generation
- d) Differentiate

...with significant impacts for Retailers

Current



Future

- Tier 2s sell services, at greater margins?
- Tier 1s strategically stranded? May struggle to move away from a cost-based model, and develop a business model which sells less energy. Stuck with cost conscious customers?
- New entrants will emerge!
- Customers get a better / different deal

Retailers will have a catalyst to shift switching patterns – to their advantage

The distribution of residential customer switching TODAY:

A. Never switched
~ 40%

B. Have
switched once
~ 20%

C. Switch regularly
~ 40%

Most profitable

Least profitable

Foundation of Tier 1 customer base

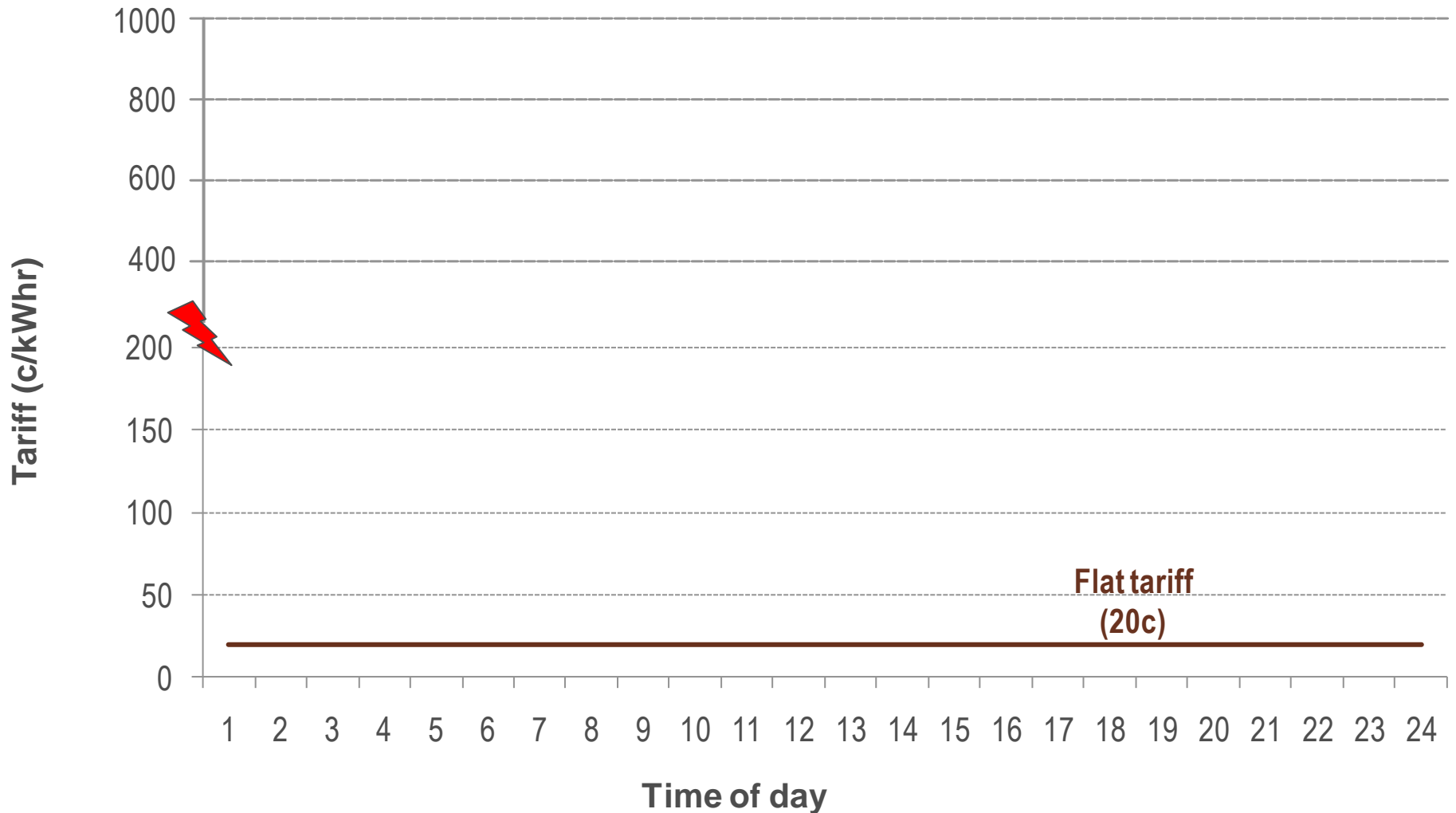
100% of Tier 2 customer base

Retailers will have the opportunity to:

- Move Group A into Group B – via a radically altered value proposition
- Move Group C into Group B – via provision of bundled services, hardware, and applications

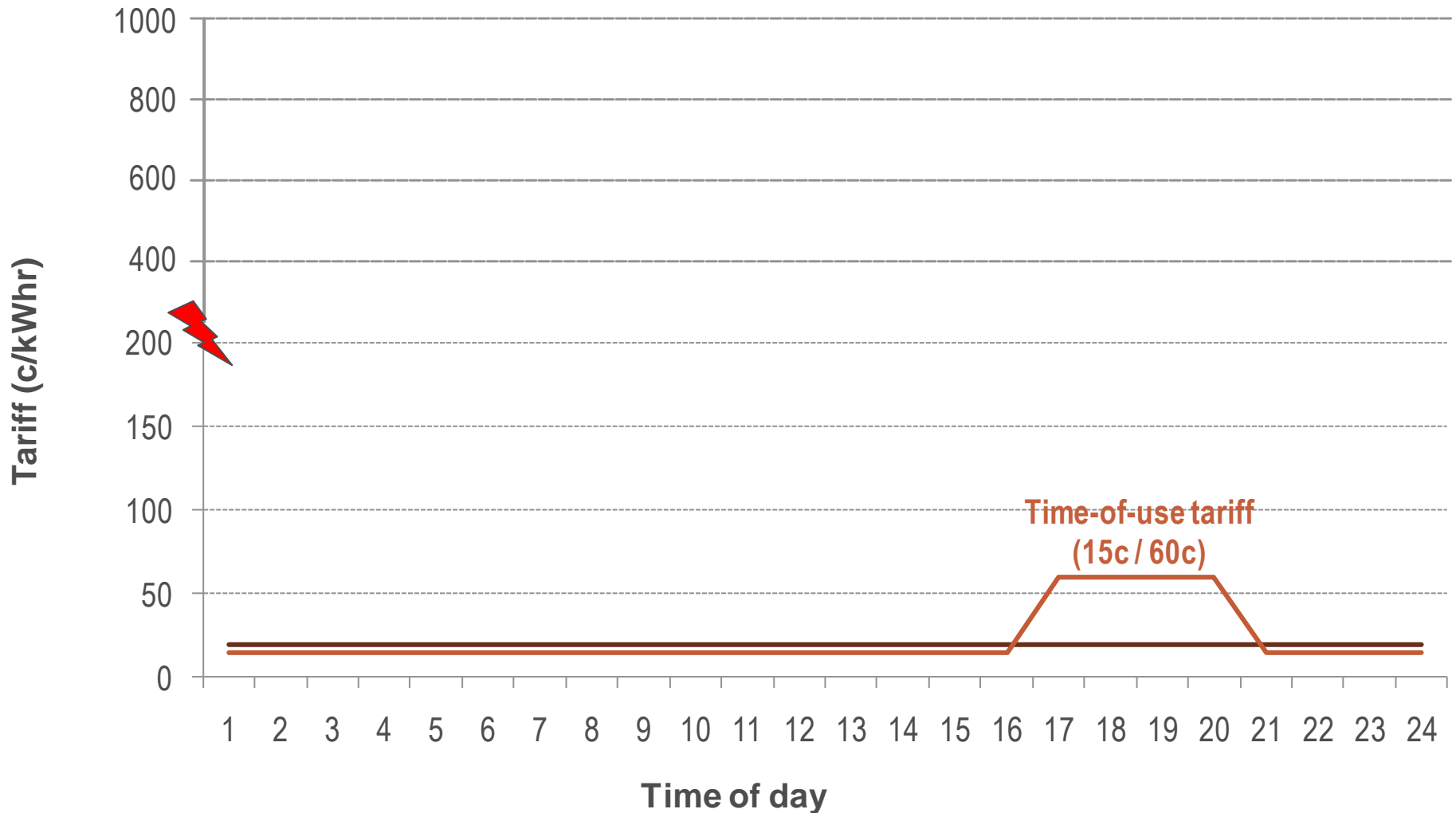
Example: New tariff structures available to consumers

(1)



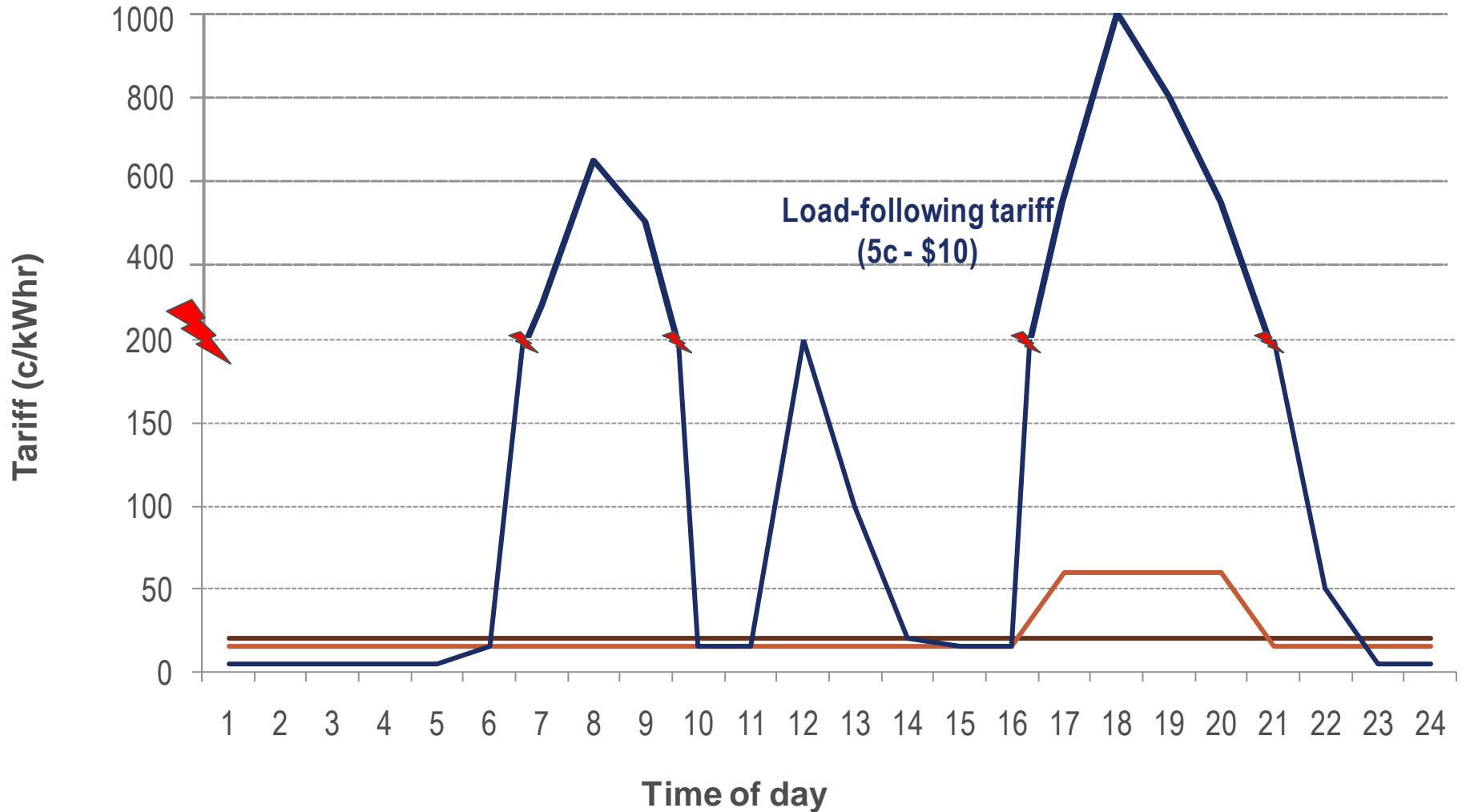
Example: New tariff structures available to consumers

(2)



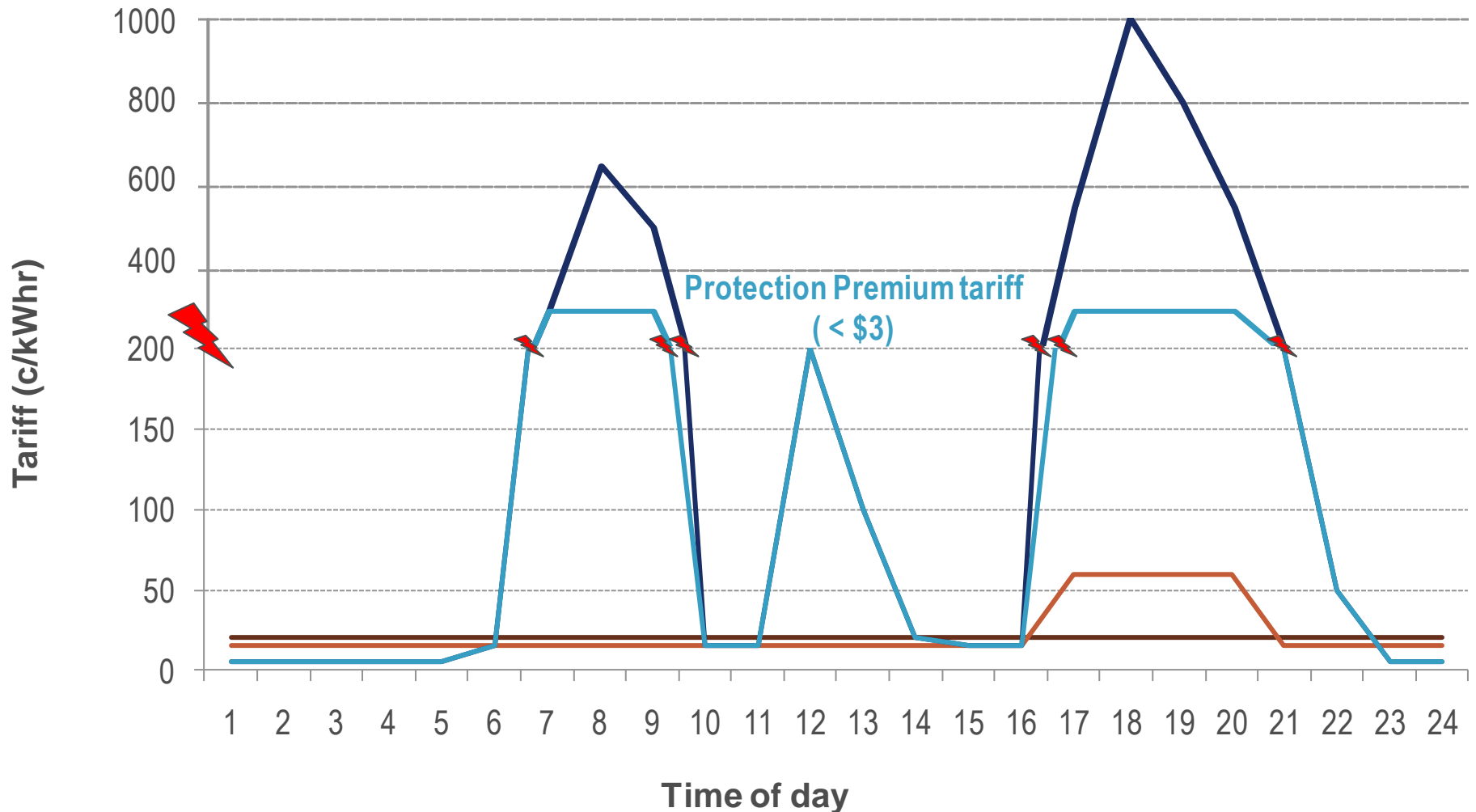
Example: New tariff structures available to consumers

(3)



Example: New tariff structures available to consumers

(4)



The peak load duration curve will flatten

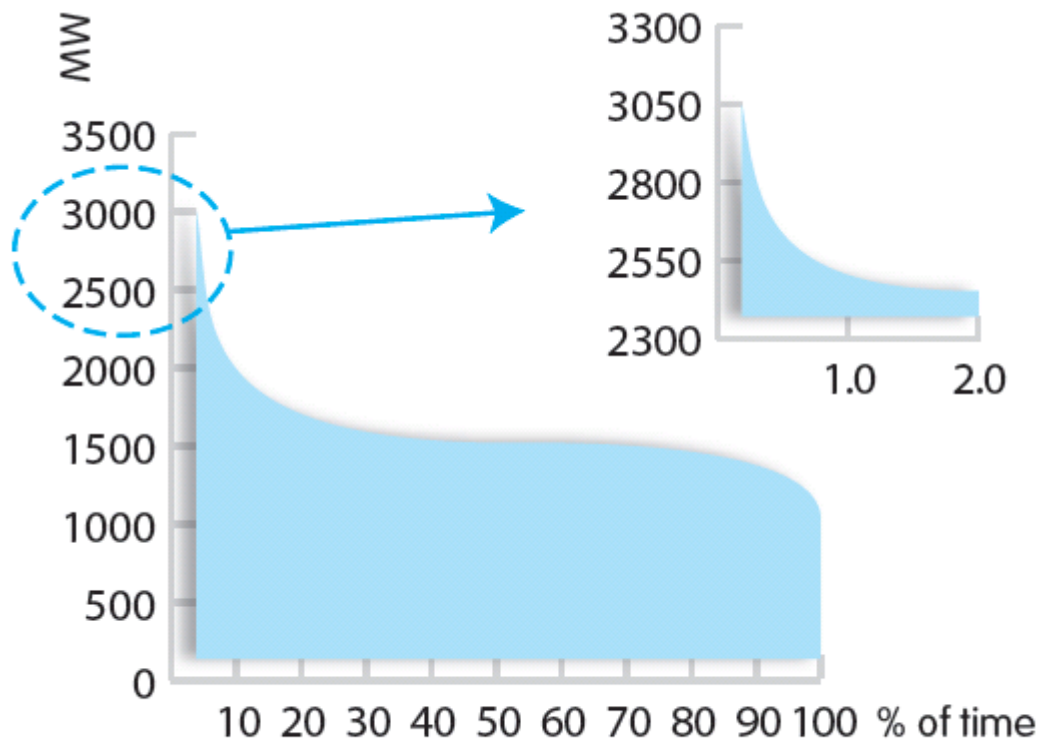


Figure 1 – South Australia System Load Duration Curve 2007-08¹

It has been estimated that across Australia around 10% of our grid only gets used 1% of the time.

This represents about \$3.5 billion in network assets sitting largely idle.

Source: "The asset base of distribution network businesses in the National Electricity Market is approximately \$35bn", AER.

Source: "Can Australia's electricity grid cope with electric vehicles?", Better Place Australia

Access to energy will become a prominent social issue

Who will serve fuel-poor customers?

- A not-for-profit retailer?
- Traditional retailers, incentivised by Government grants?
- A niche retailer, with expertise in handling “at-risk” customers?

Will consumers migrate to moderate climates?

MONEY MATTERS

Families in fear of 'fuel poverty' as energy costs soar

By John Rolfe | The Daily Telegraph

NI battle to save elderly from fuel poverty death

Too many older people are dying of fuel poverty in Northern Ireland, a charity has warned.

Fuel poverty charity, National Energy Action, (NEA), said the strategy to help the fuel poor in Northern Ireland was failing.

The NEA said national figures given to them showed 2008 had the highest number of cold-related deaths in a decade.

It has called on older people to speak to their GP to get help. The charity has also called on the government to act to end fuel poverty.

NEA is working alongside agencies such as Citizens Advice to help people who are predisposed to fuel poverty, with their incomes below the poverty line.

Pat Austin, NEA director, said: "We know that older people are predisposed to fuel poverty, with their incomes below the poverty line."

"Our new campaign will help tell the public about the problem of fuel poverty, supplementing existing data with real-life stories of people who are like to be fuel poor."

The charity hopes to build up detailed data on the problem of fuel poverty through a campaign to persuade the government to act.

Fuel poverty causing hundreds of deaths

BBC Newsline talks to the Chief Executive of Age Concern Northern Ireland, Anne O'Reilly, about the problem of fuel poverty here.

BBC Northern Ireland Environment Correspondent Mike McKimm investigates the high rate of fuel poverty in Northern Ireland.

"Fuel Poverty? We only talk about it when it's very cold or oil prices go through the roof".

That was one comment made to me by one of the many people who work tirelessly behind the scenes trying to prevent a crisis becoming a disaster.



Progress to date – United Kingdom vs Victoria

International programs are moving at a rapid pace - are we being left behind?

In the UK:

- Program began much later than in Victoria – but is moving swiftly
- Led by competitive retailers
- Driven by customer centric thinking
- Retailers are all striving to differentiate & capture market share

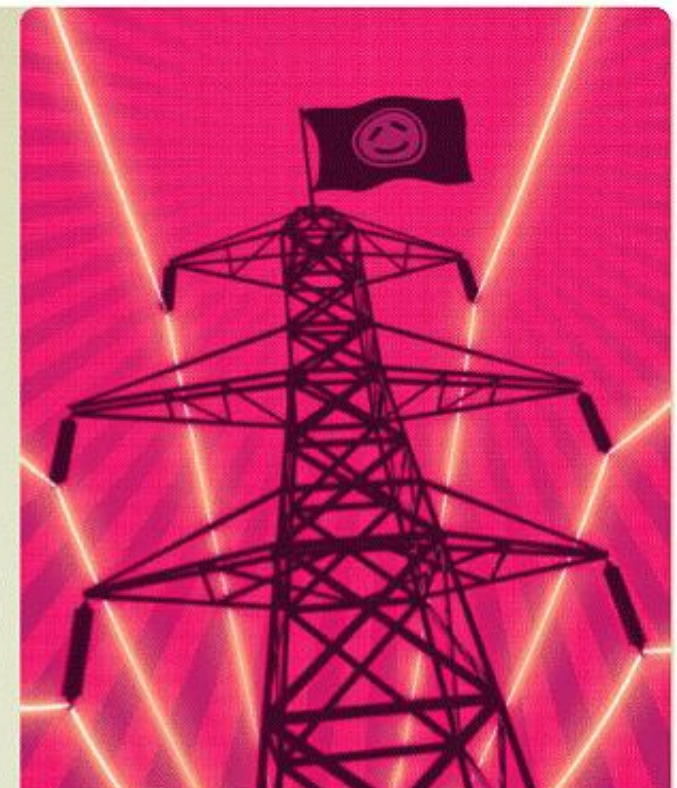
In Victoria:

- Program began in 2006 and is due for completion 2013
- Few changes are evident to customers to-date – and key functionalities (e.g. TOU pricing) are in question
- Led by regulated distributors
- Largely compliance and network outcome-driven, so far...


In Summary: an industry transformation more significant than competition, privatisation & regulation of the 1990s

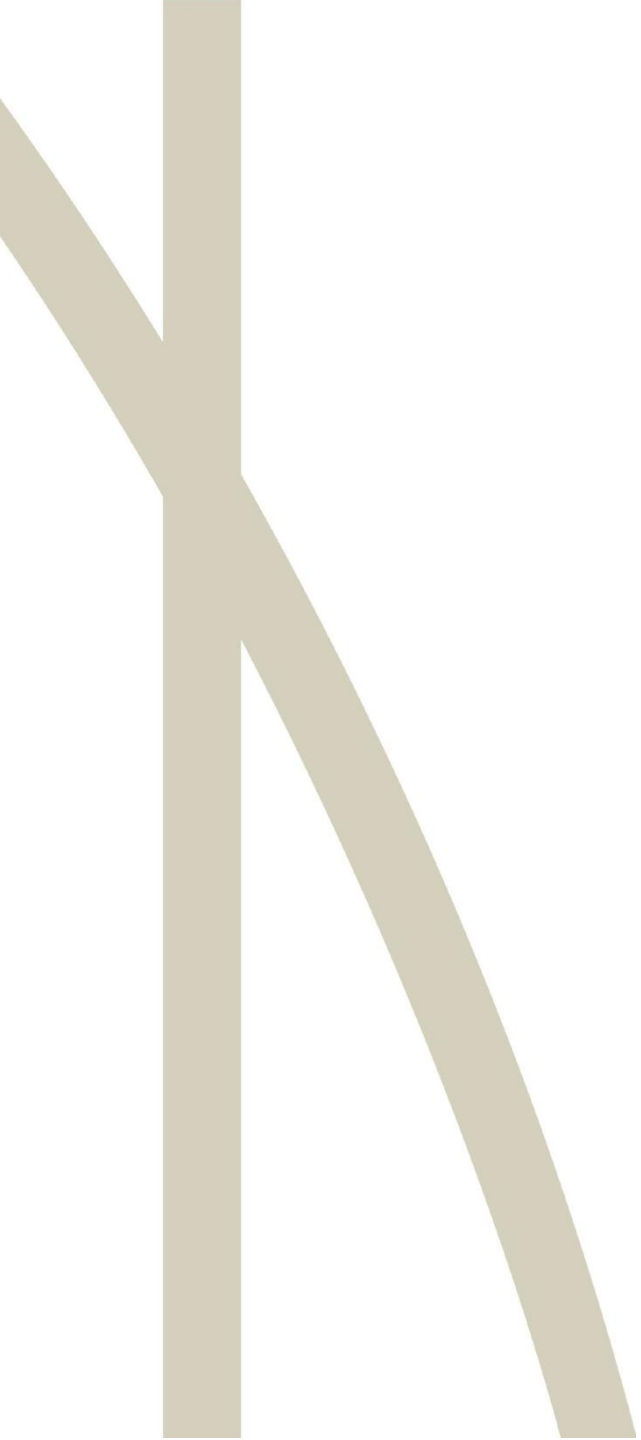
- Energy costs 2-3+ times higher in ~7 years
- Consumer interest in energy dramatically higher
- New technology enabling new products and services
- Crude market segments (C&I, SME, R) replaced by “mass personalisation”
- Tier 2 retailer ‘shake out’
- Tier 1 retailers face difficult choices – launch guerrilla brands?
- New entrants emerge

Designed and built by engineers,
bastardised by economists
and muddled by marketers,
the power industry continues
to deliver one of the most
successful consumer confusion
programmes of all time.



**CUT OFF
YOUR POWER
COMPANY**

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Questions?



Thanks for listening

Presentation available at:

marchmenthill.com/qsi-online